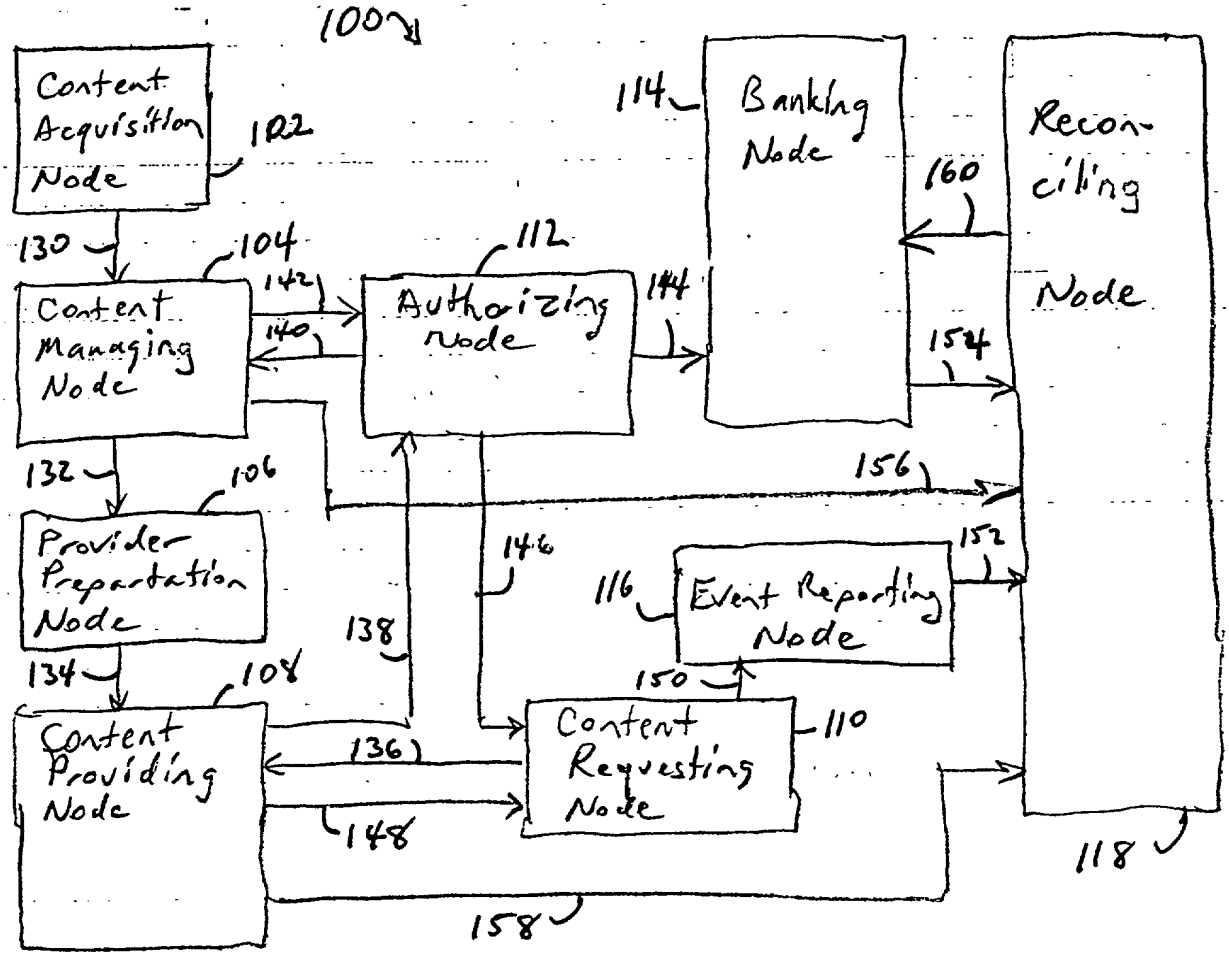

100
Content Acquisition Node
102
Banking Node
114
Reconciling Node
160
130
104
Content Managing Node
142
140
112
Authorizing Node
144
154
132
106
156
Provider Preparation Node
146
116
Event Reporting Node
152
138
134
108
150
Content Providing Node
Content Requesting Node
110
136
148
118
158

Fig. 1

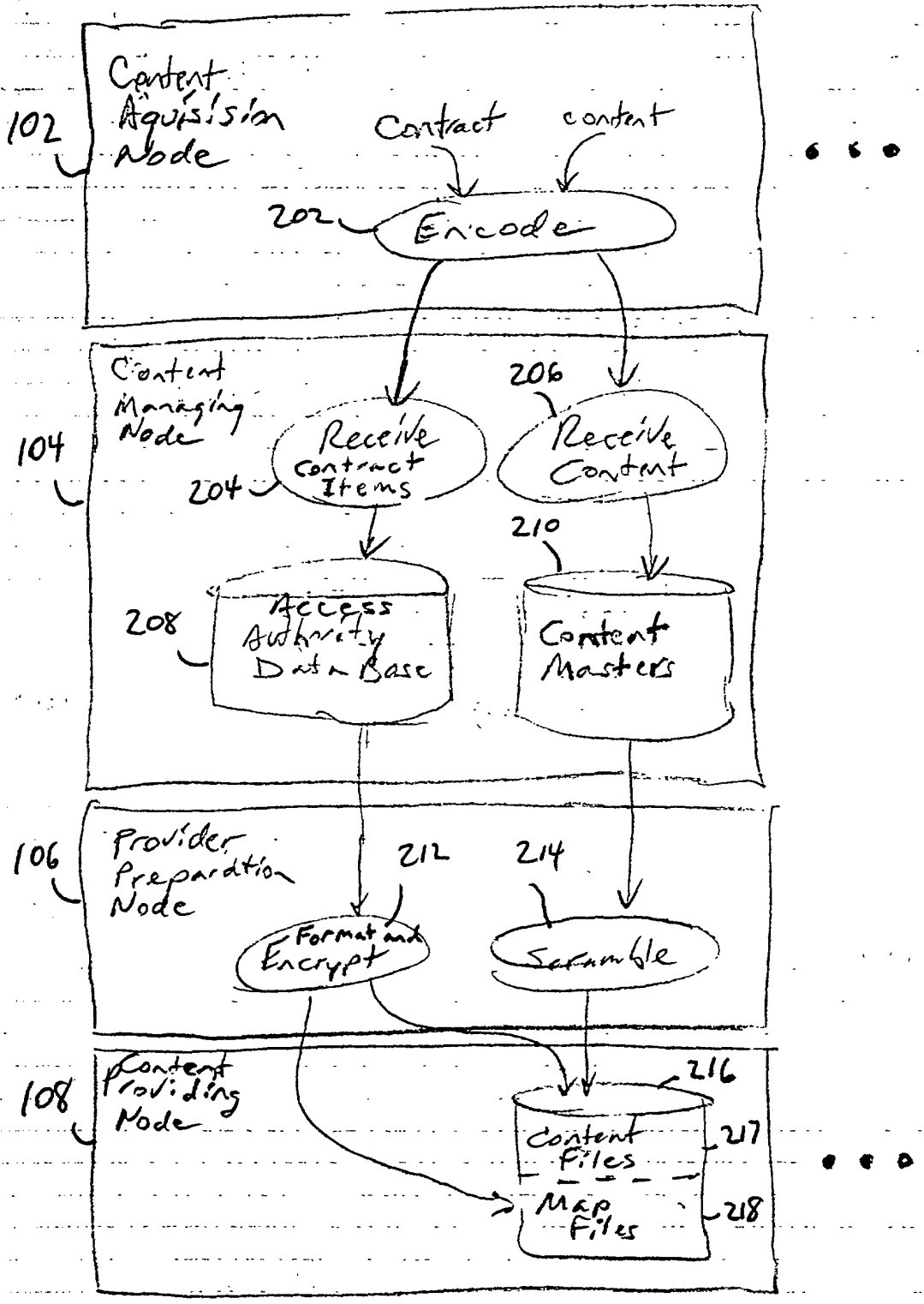

Content Aquisision Node
102
Contract
content
202
Encode
Content Managing Node
104
206
Receive Contract Items
204
Receive Content
210
208
Access Authority Data Base
Content Masters
Provider Preparation Node
106
212
214
Format and Encrypt
Scramble
Content Providing Node
108
216
Content Files
217
Map Files
218

Fig. 2

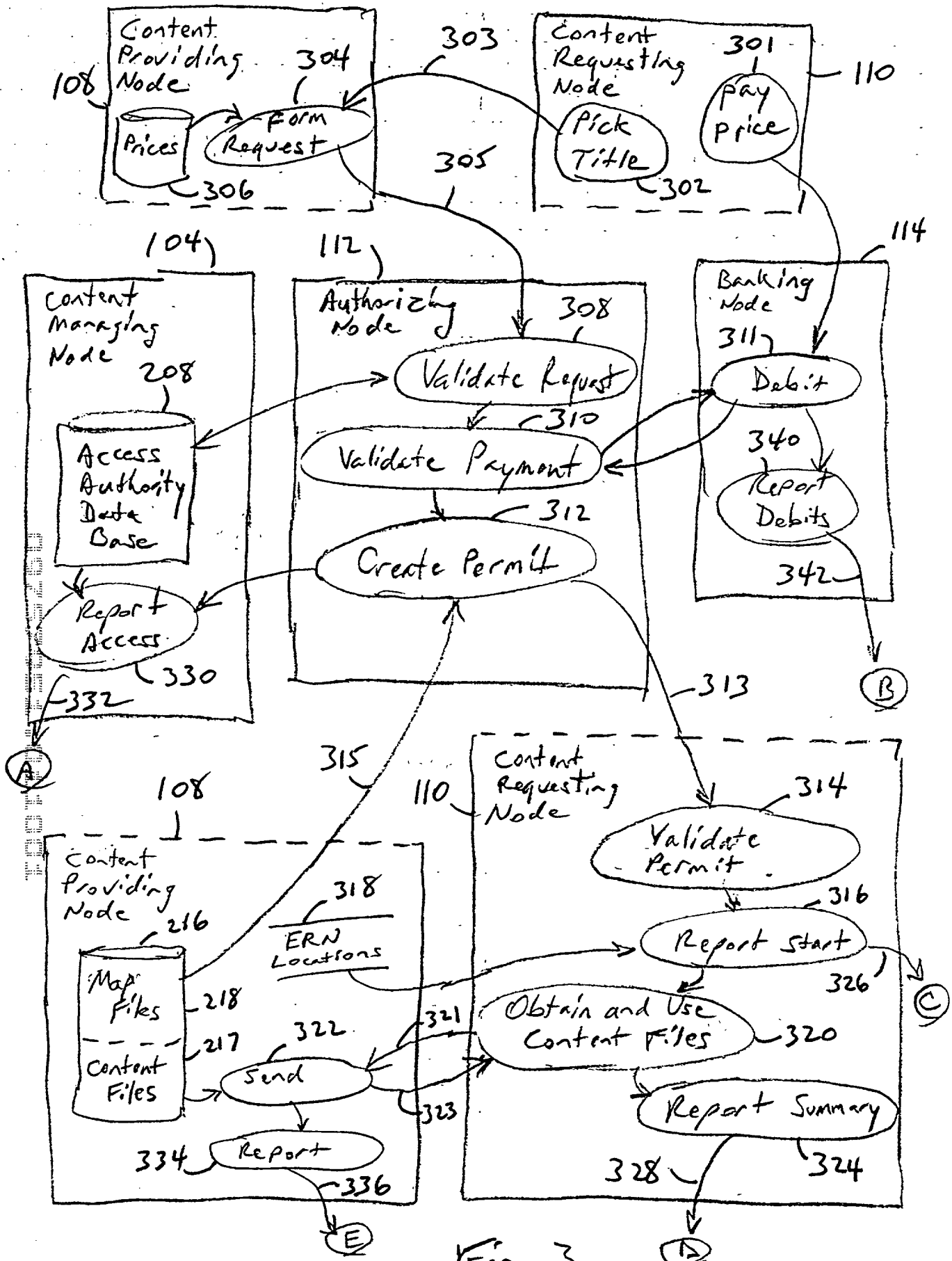

Content Providing Node
108
304
Form Request
Prices
306
303
Content Requesting Node
301
110
Pay Price
Pick Title
302
305
104
Content Managing Node
208
Access Authority Data Base
Report Access
330
332
112
Authorizing Node
308
Validate Request
310
Validate Payment
312
Create Permit
313
114
Banking Node
311
Debit
340
Report Debits
342
B
A
315
108
Content Providing Node
216
Map Files
218
Content Files
217
318
ERN Locations
322
Send
323
334
Report
336
E
110
Content Requesting Node
314
Validate Permit
316
Report Start
326
C
321
Obtain and Use Content Files
320
Report Summary
324
328
D

Fig. 3

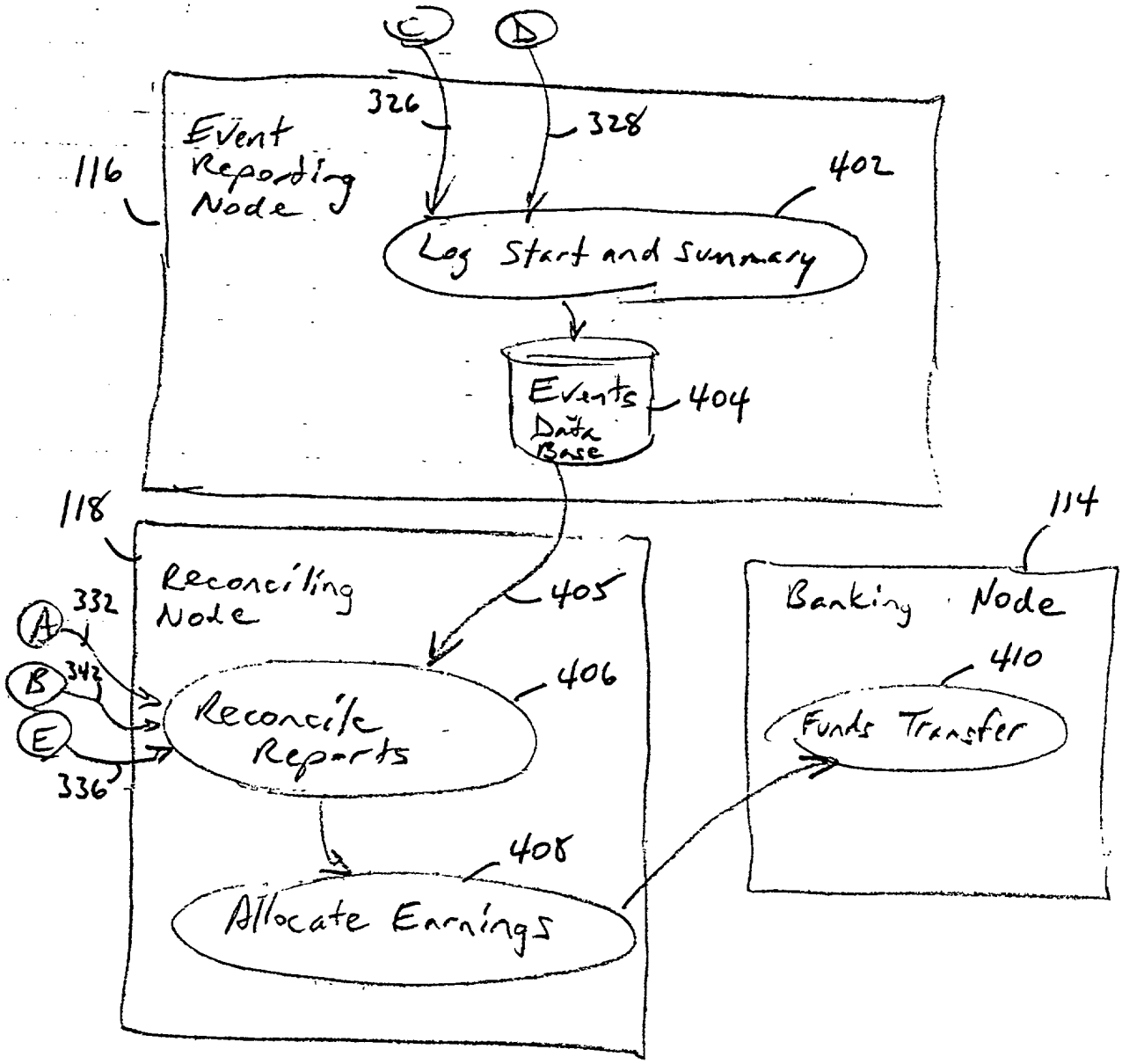

C
D
326
328
Event Reporting Node
116
402
Log Start and Summary
Events Data Base
404
118
Reconciling Node
405
114
Banking Node
410
Funds Transfer
A
332
B
342
E
336
406
Reconcile Reports
408
Allocate Earnings

Fig. 4

502

	Report					Reconciliation Result
	A	B	C	D	E	
504	Y	Y	Y	Y	Y	Normal request/payment
506	Y	Y	N	N	X	Failed CRN
508	N	N	Y	X	X	Failed CRN
510	N	N	X	Y	X	Failed CRN

Y = Yes

N = No

X = Don't Care

Fig. 5

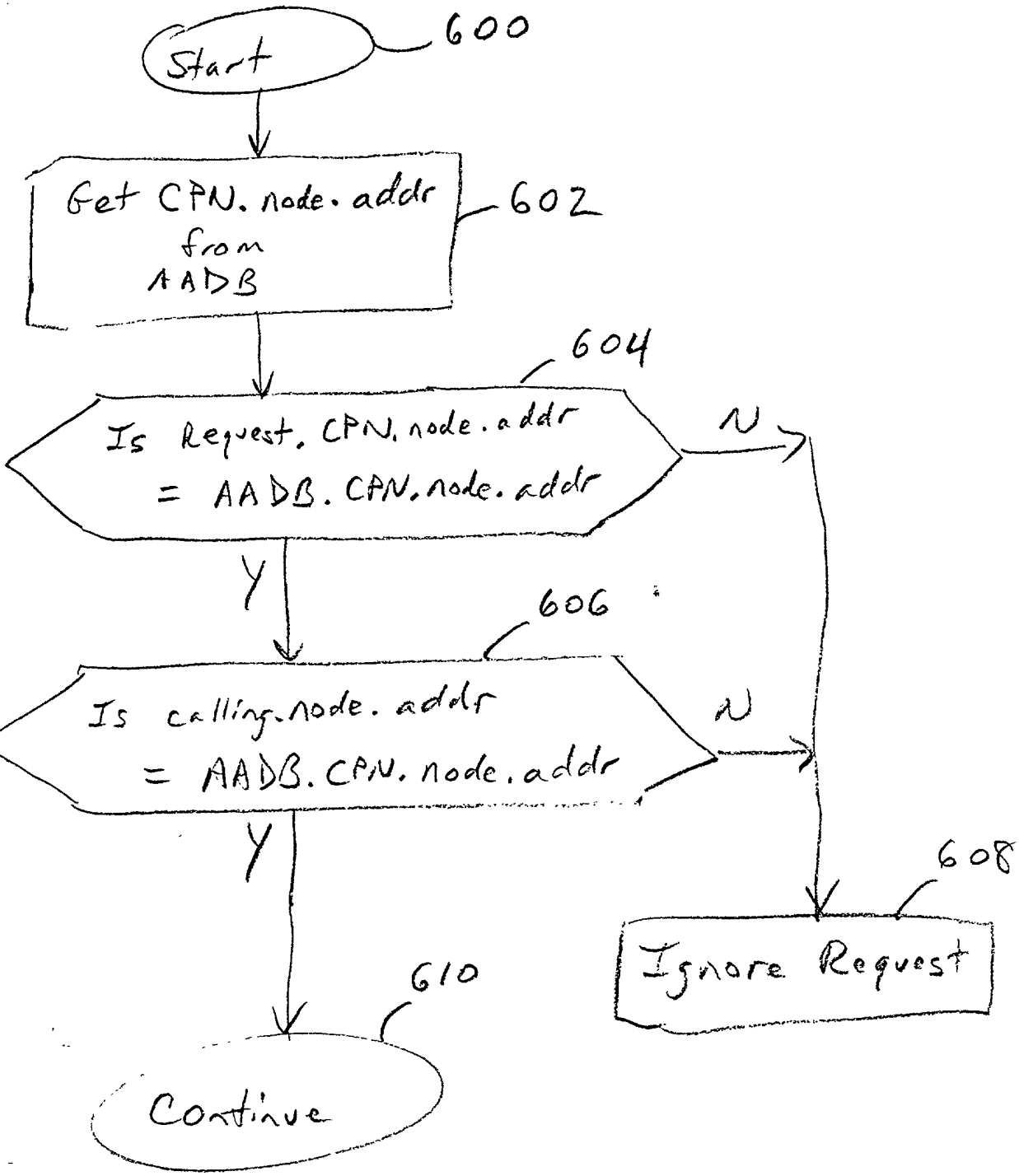

Start
600
Get CPN.node.addr from AADB
602
604
Is Request.CPN.node.addr = AADB.CPN.node.addr
N
Y
606
Is calling.node.addr = AADB.CPN.node.addr
N
Y
608
Ignore Request
610
Continue

Fig. 6

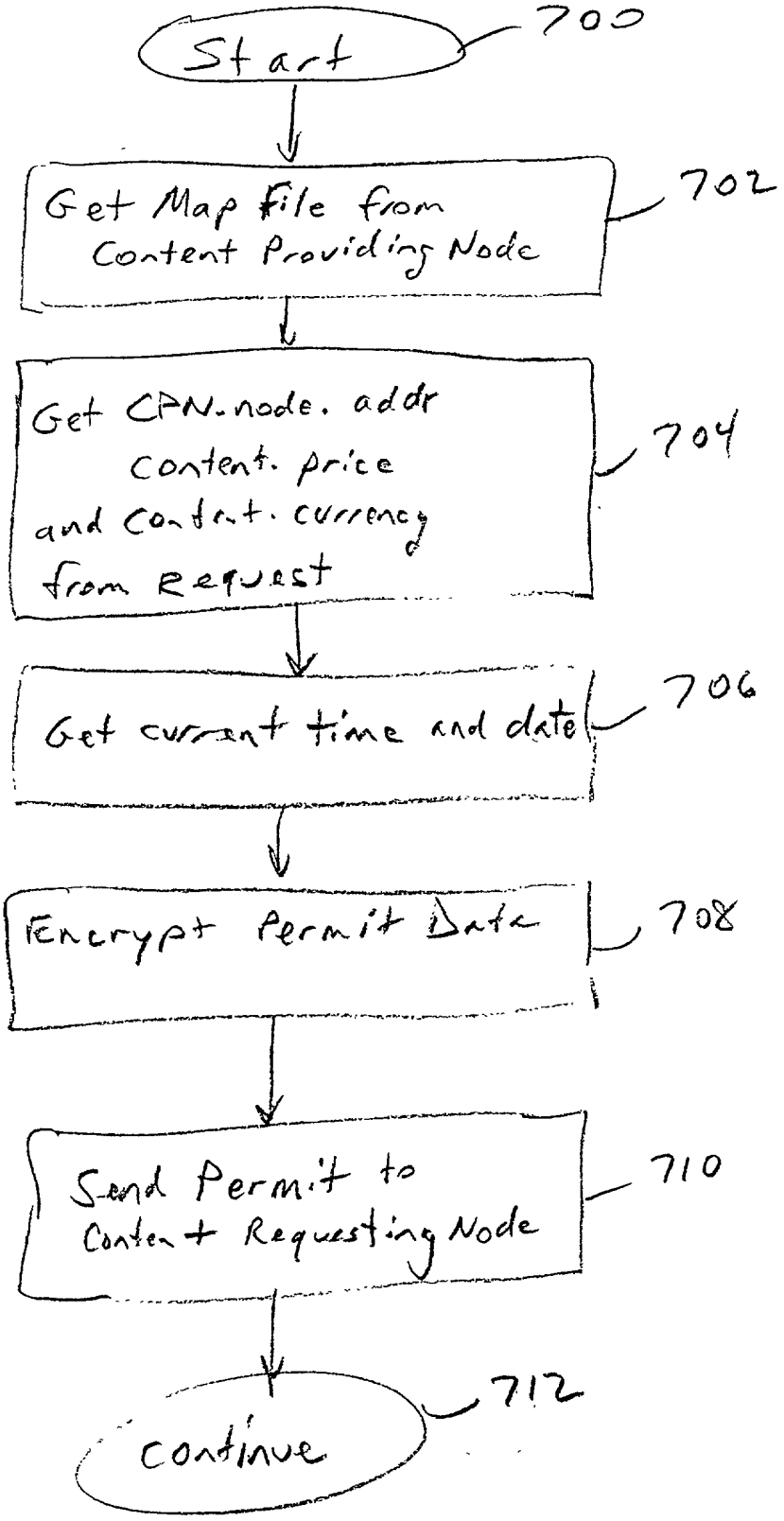

Start
700
Get Map File from Content Providing Node
702
Get CPN.node.addr Content.price and Content.currency from Request
704
Get current time and date
706
Encrypt Permit Data
708
Send Permit to Content Requesting Node
710
continue
712

Fig. 7

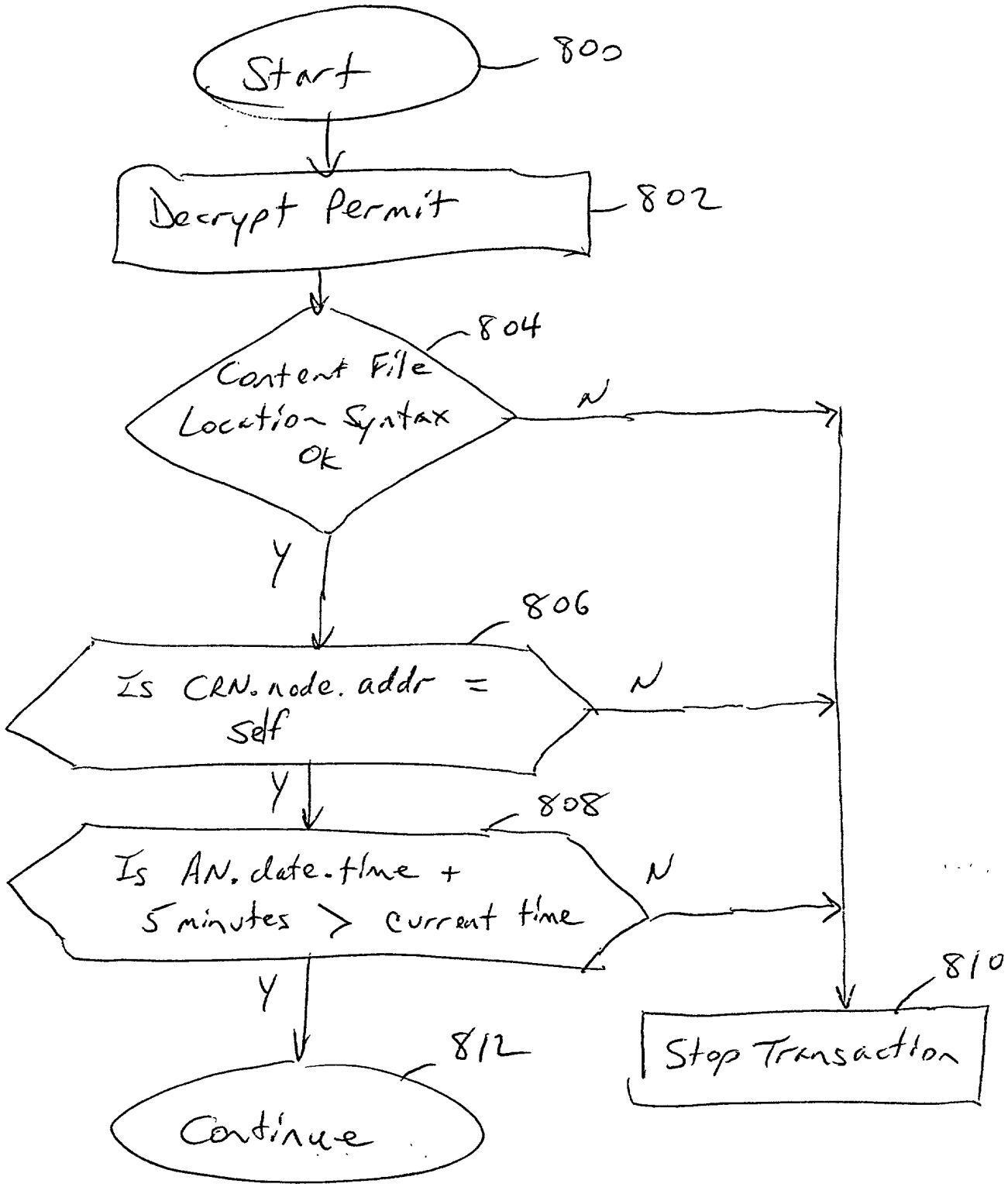

Start
800
Decrypt Permit
802
Content File Location Syntax Ok
804
N
Y
Is CRN.node.addr = self
806
N
Y
Is AN.date.time + 5 minutes > current time
808
N
Y
Stop Transaction
810
Continue
812

Fig. 8

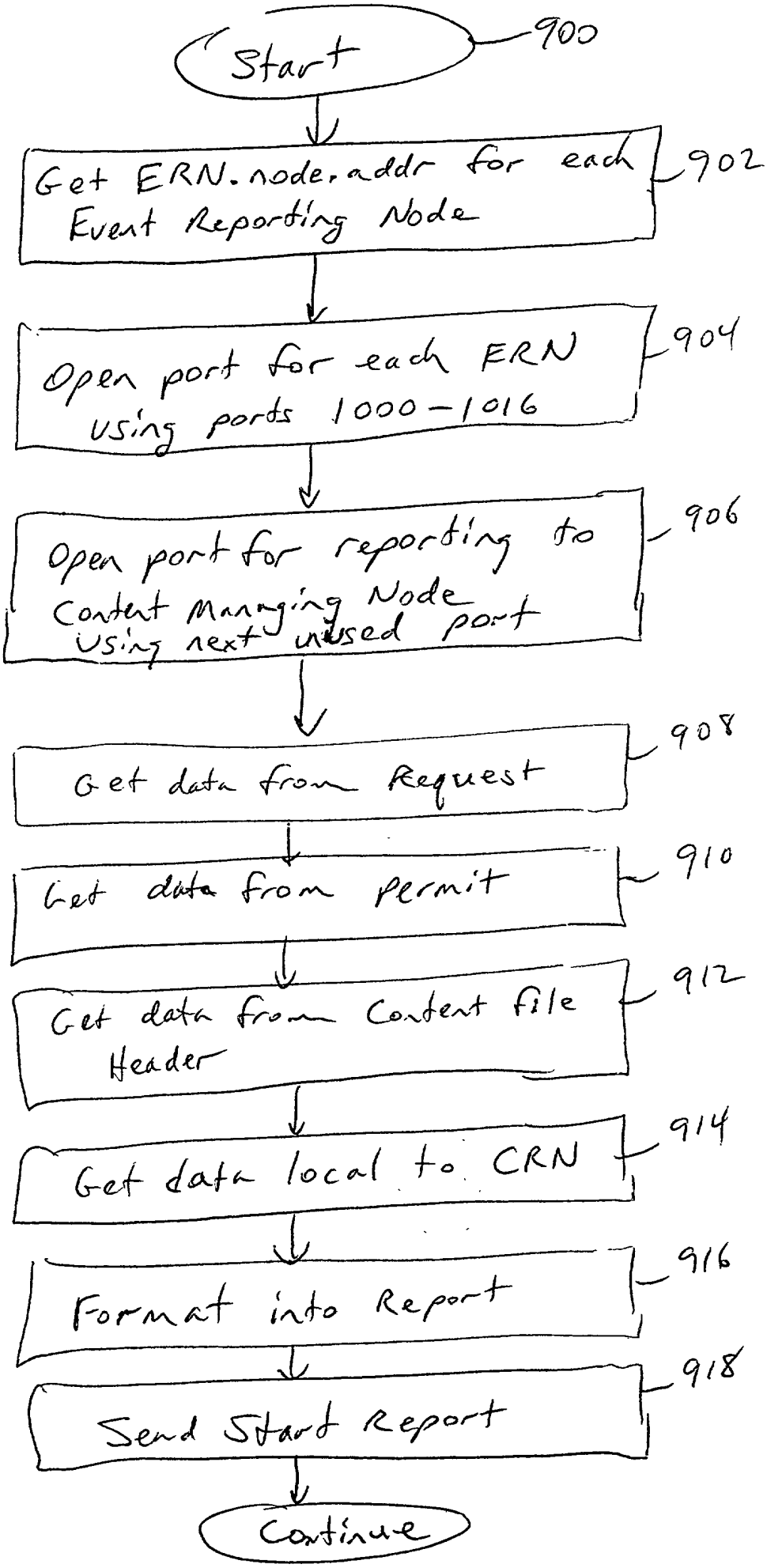

Start
900
Get ERN.node.addr for each Event Reporting Node
902
Open port for each ERN using ports 1000-1016
904
Open port for reporting to Content Managing Node using next unused port
906
Get data from Request
908
Get data from permit
910
Get data from Content file Header
912
Get data local to CRN
914
Format into Report
916
Send Start Report
918
Continue

Fig. 9

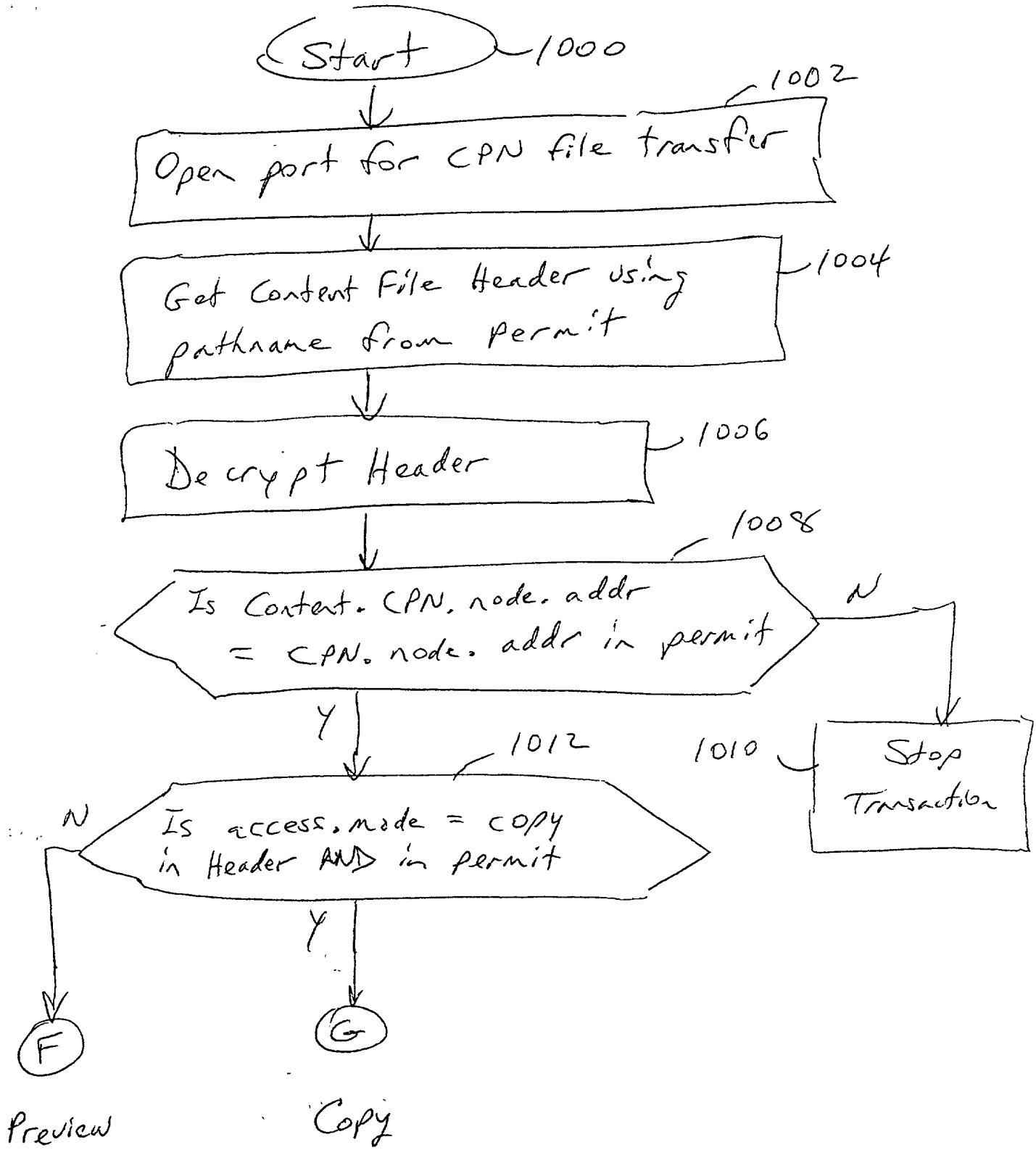

Start
1000
1002
Open port for CPN file transfer
Get Content File Header using pathname from permit
1004
Decrypt Header
1006
1008
Is Content.CPN.node.addr = CPN.node.addr in permit
N
Y
1010
Stop Transaction
1012
Is access.mode = COPY in Header AND in permit
N
Y
F
G
Preview
Copy

Fig. 10

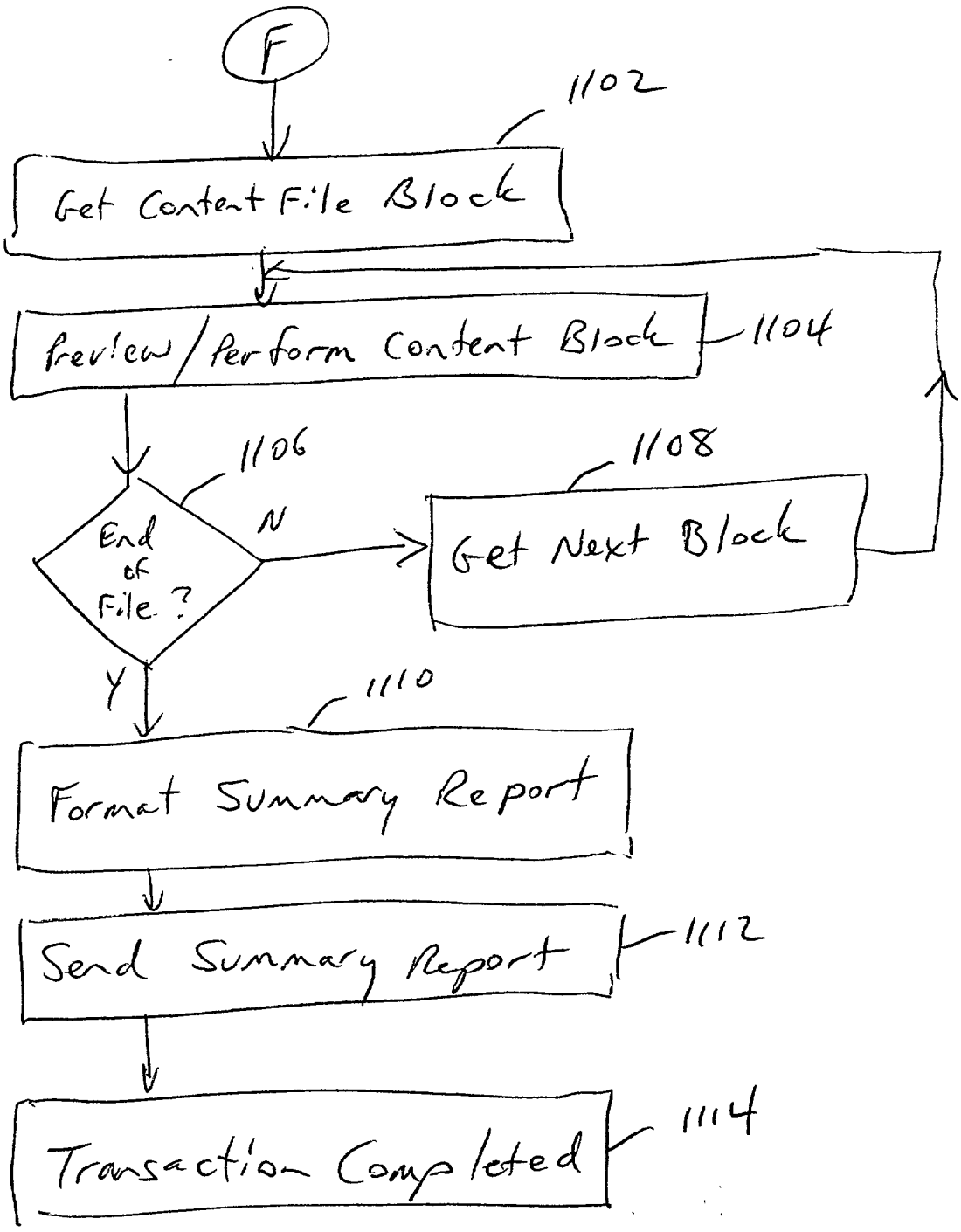

F
1102
Get Content File Block
Preview/Perform Content Block
1104
1106
End of File?
N
1108
Get Next Block
Y
1110
Format Summary Report
Send Summary Report
1112
Transaction Completed
1114

Fig. 11

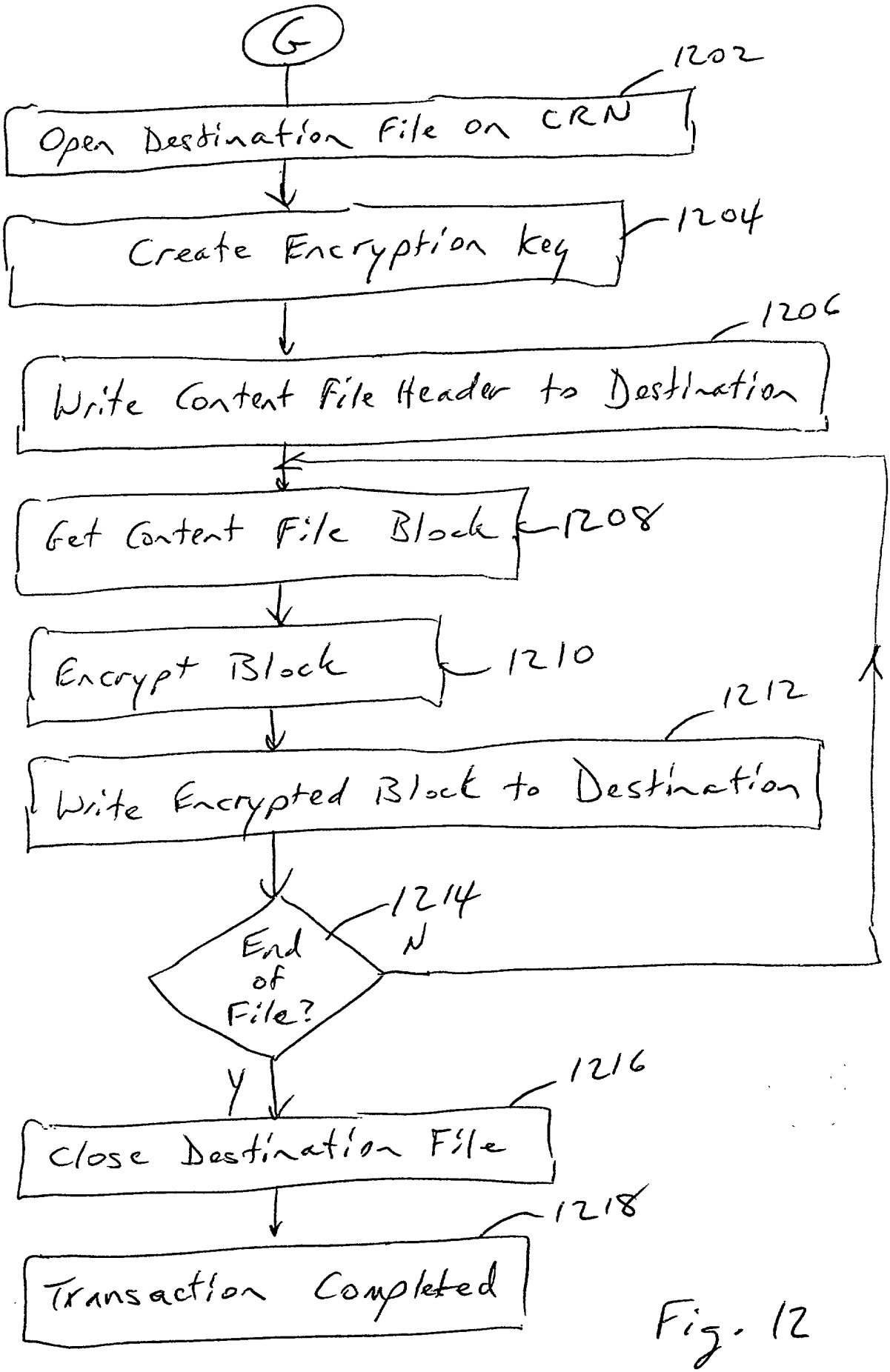

G
1202
Open Destination File on CRN
1204
Create Encryption key
1206
Write Content File Header to Destination
1208
Get Content File Block
1210
Encrypt Block
1212
Write Encrypted Block to Destination
1214
End of File?
N
Y
1216
Close Destination File
1218
Transaction Completed

Fig. 12

1300

MAP FILE
map.content.version
map.CPN.node.address.pathname.quality.level 1
map.CPN.node.address.pathname.quality.level 2
map.CPN.node.address.pathname.quality.level 3
. . .
map.CPN.node.address.pathname.quality.level N

Fig. 13

1400

CONTENT FILE HEADER
content.version
content.title
content.artist
content.copyright
content.date.recording
content.size
content.listen.begin
content.listen.duration
content.ID.code.type
content.ID.code.number
content.watermark.tech
content.legal.duration
content.file.number
content.usage.counter
content.CPN.node.address
content.generation.number
content.date.start.validity
content.date.stop.validity
content.encrypt.tech
content.encrypt.key
content.listen.price
content.listen.currency
content.copy.price
content.copy.currency
content.home.copy.price
content.home.copy.currency

Fig. 14

1500

REQUEST
request.map.pathname
request.access.mode
request.sound.quality
request.content.price
request.content.currency
request.CRN.node.address
request.CRN.username
request.CRN.password
request.CPN.node.address
request.CPN.product.name
request.CPN.product.number
request.CRN.node.address.transaction.number

Fig. 15

1600

PERMIT
map.content.version
map.CPN.node.address.pathname.quality level 1
map.CPN.node.address.pathname.quality level 2
map.CPN.node.address.pathname.quality level 3
. . .
map.node.address.pathname.quality level N
request.content.price
request.content.currency
permit.CPN.node.address
permit.AN.date.time

Fig. 16

1700

START REPORT
request.CRN.node.address.transaction.number
request.CRN.node.address
request.CRN.username
request.CRN.password
request.access.mode
start.report.date.time
content.title
content.artist
content.copyright
content.legal.duration
content.ID.code.type
content.ID.code.number
content.CPN.node.address
content.file.number
start.report.CRN.encrypt.key
request.content.price
request.content.currency
request.sound.quality
permit.map.CPN.node.address.pathname.quality.level[x]
start.report.CRN.timezone
start.report.CRN.language
start.report.CRN.keyboard

Fig. 17

1800

SUMMARY REPORT
request.CRN.node.address.transaction.number
request.CRN.node.address
request.CRN.username
request.CRN.password
content.ID.code.type
content.ID.code.number

Fig. 18

1900

ACCESS REPORT
content.title
content.artist
content.copyright
content.legal.duration
content.ID.code.type
content.ID.code.number
content.CPN.node.address
content.file.number
access.territory.rightowners
content.price
content.currency
request.CRN.node.address.transaction.number

Fig. 19

2000

DEBIT REPORT
content.ID.code.type
content.ID.code.number
content.CPN.node.address
request.CPN.product.name
request.CPN.product.number
debit.date.time
request.CRN.username
request.CRN.password
request.content.price
request.content.currency
request.CRN.node.address.transaction.number

Fig. 20

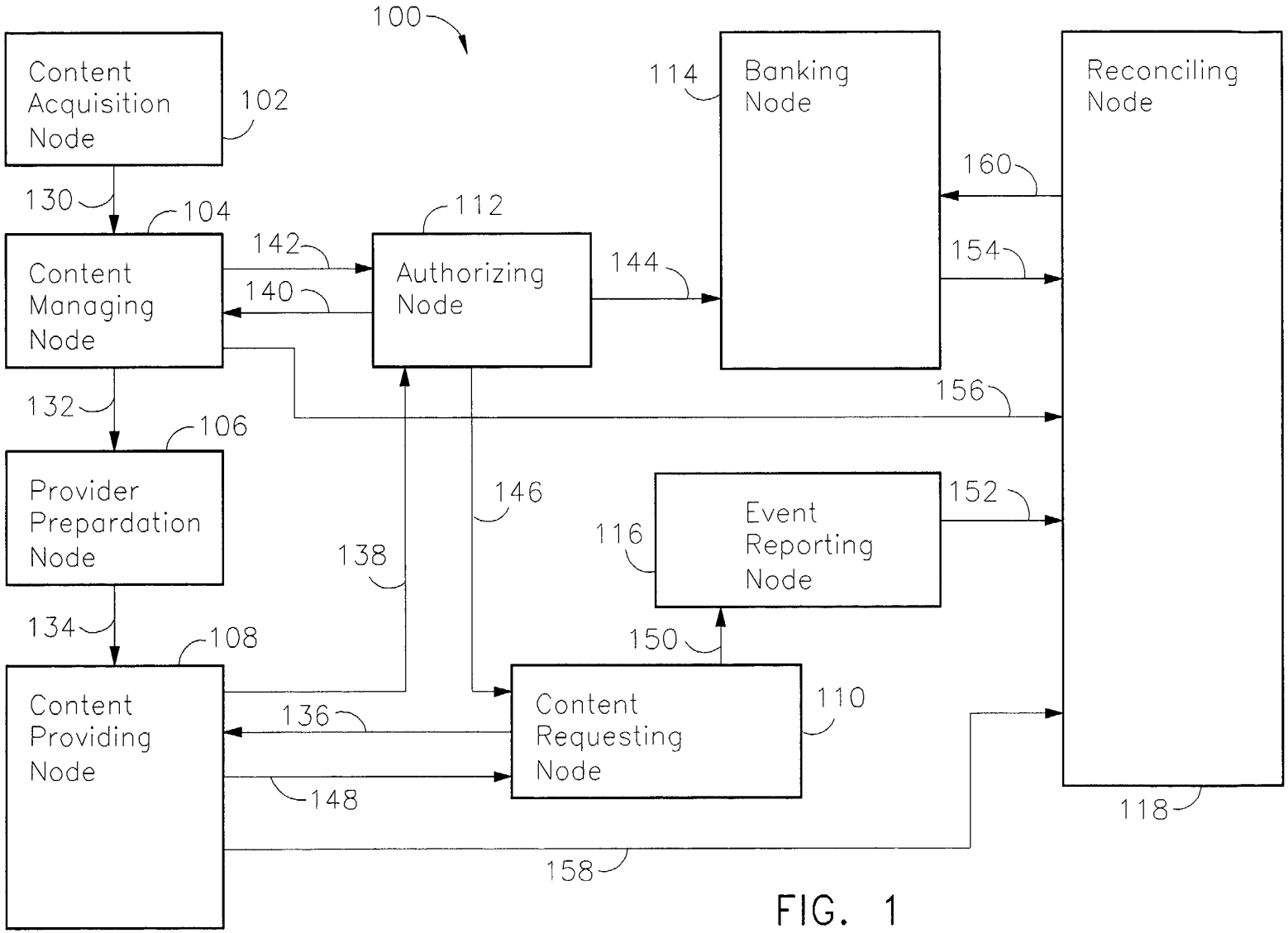

100
Content Acquisition Node
102
130
104
Content Managing Node
142
140
112
Authorizing Node
144
114
Banking Node
160
154
Reconciling Node
156
132
106
Provider Prepardation Node
146
138
116
Event Reporting Node
152
134
108
150
Content Providing Node
136
Content Requesting Node
110
148
158
118

FIG. 1

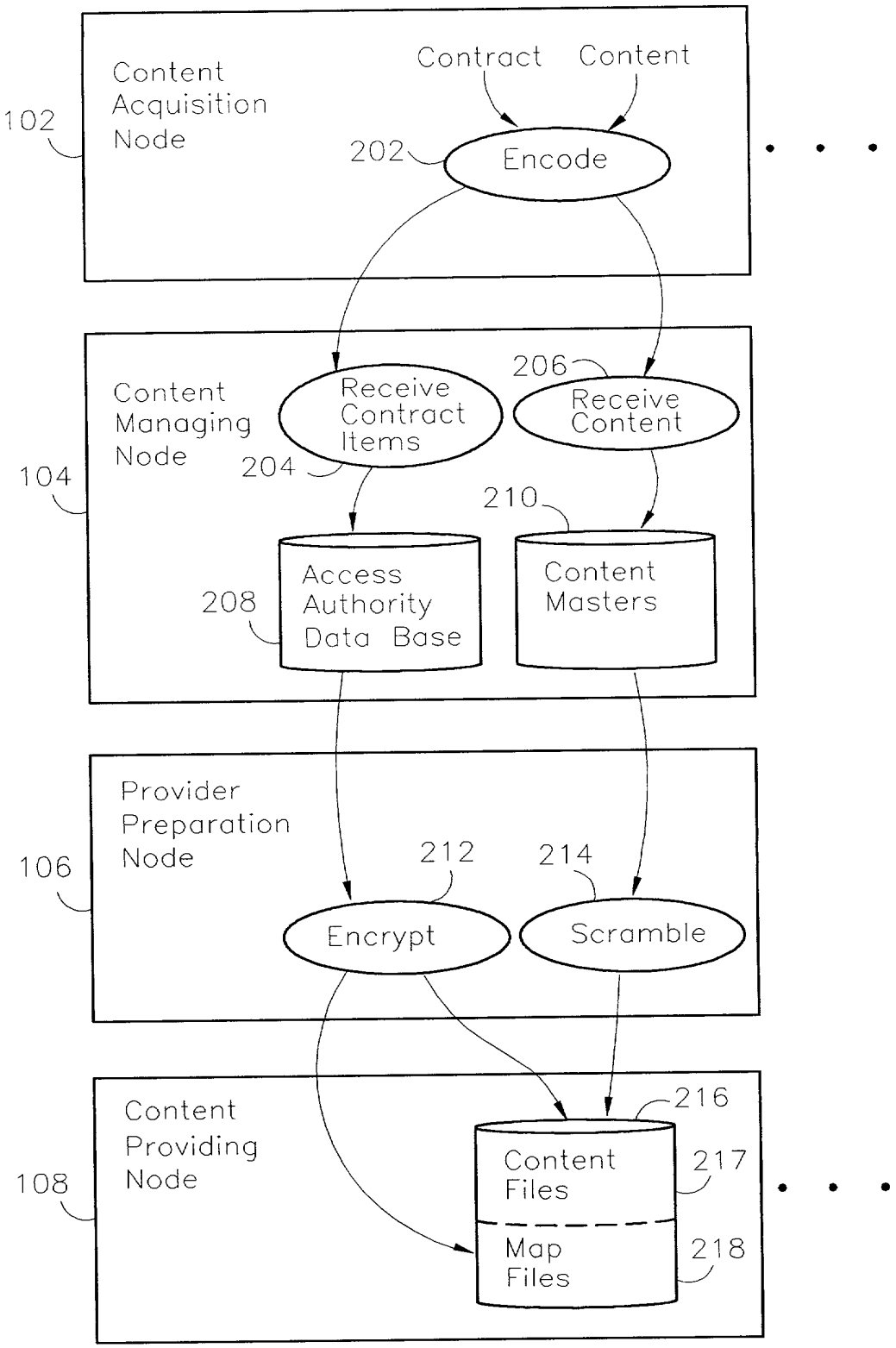

Content Acquisition Node
102
Contract
Content
202
Encode
Content Managing Node
104
Receive Contract Items
204
206
Receive Content
210
Access Authority Data Base
208
Content Masters
Provider Preparation Node
106
212
214
Encrypt
Scramble
Content Providing Node
108
216
Content Files
217
Map Files
218

FIG. 2

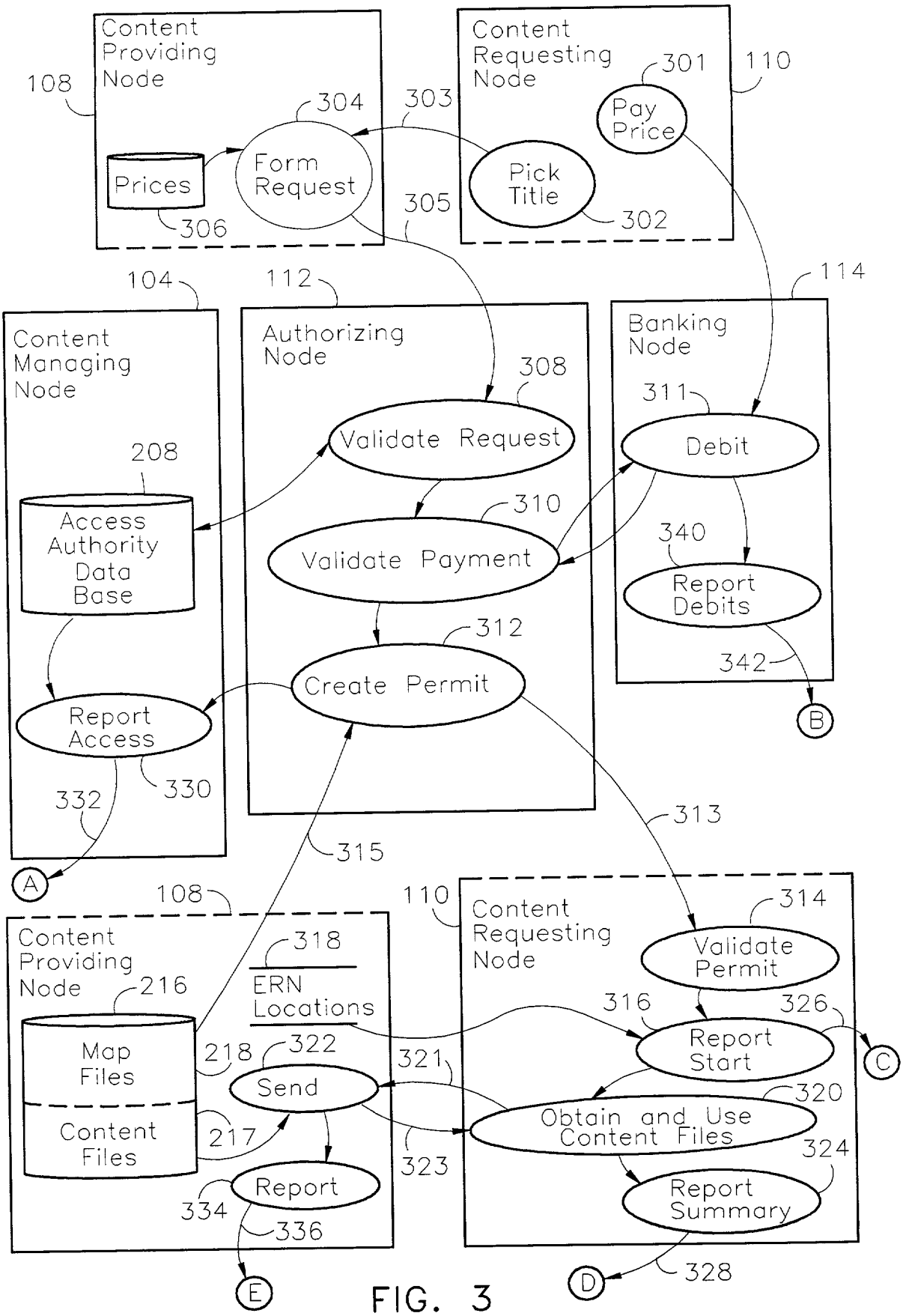

Content Providing Node
108
304
303
Content Requesting Node
301
110
Pay Price
Prices
Form Request
Pick Title
305
306
302
104
112
114
Content Managing Node
Authorizing Node
Banking Node
308
311
208
Validate Request
Debit
Access Authority Data Base
310
340
Validate Payment
Report Debits
312
342
Create Permit
B
Report Access
330
332
313
315
A
108
110
Content Providing Node
318
314
Content Requesting Node
216
ERN Locations
Validate Permit
316
326
Map Files
218
322
Report Start
C
321
Send
320
Content Files
217
Obtain and Use Content Files
323
324
Report
Report Summary
334
336
328
E
D

FIG. 3

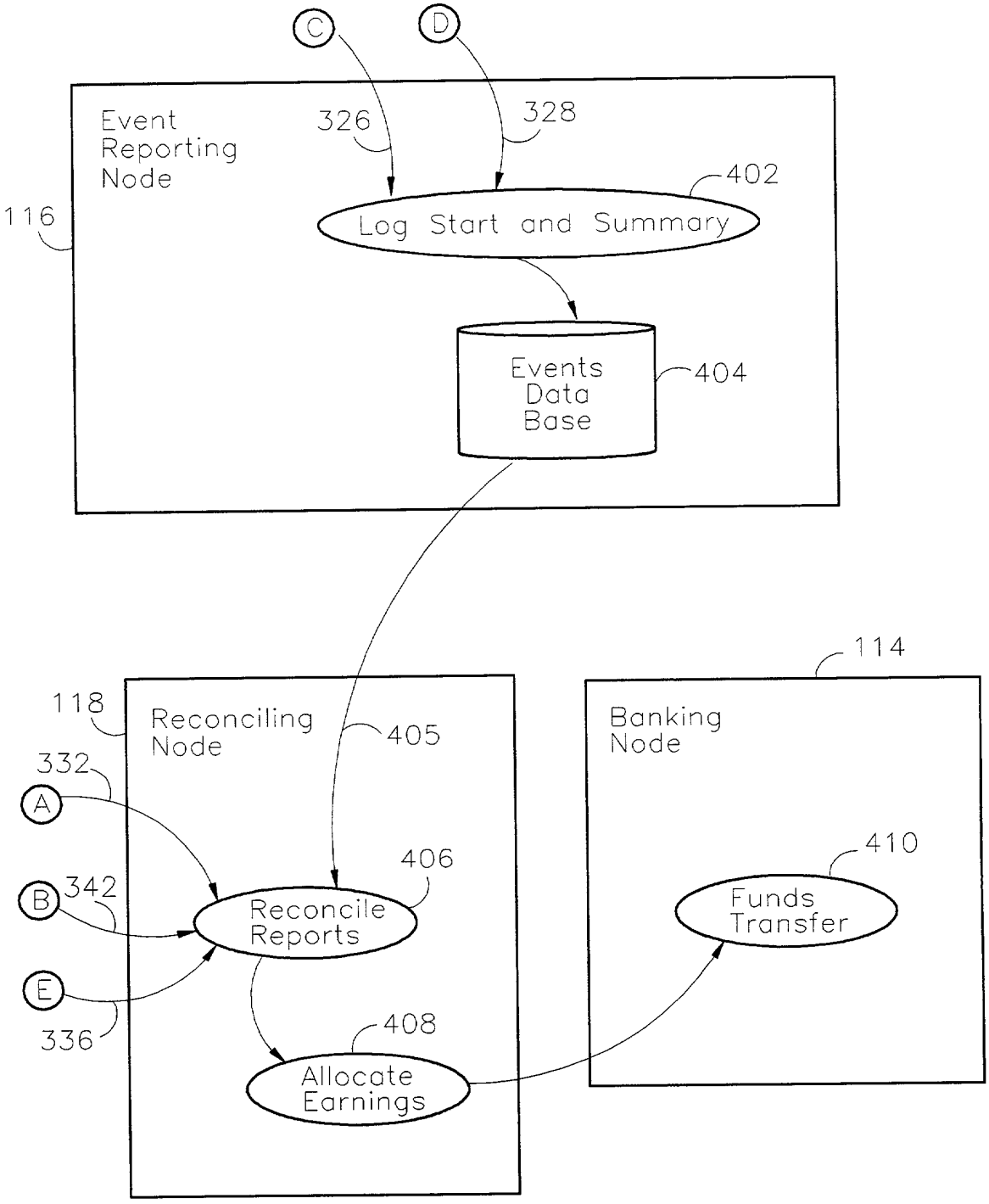
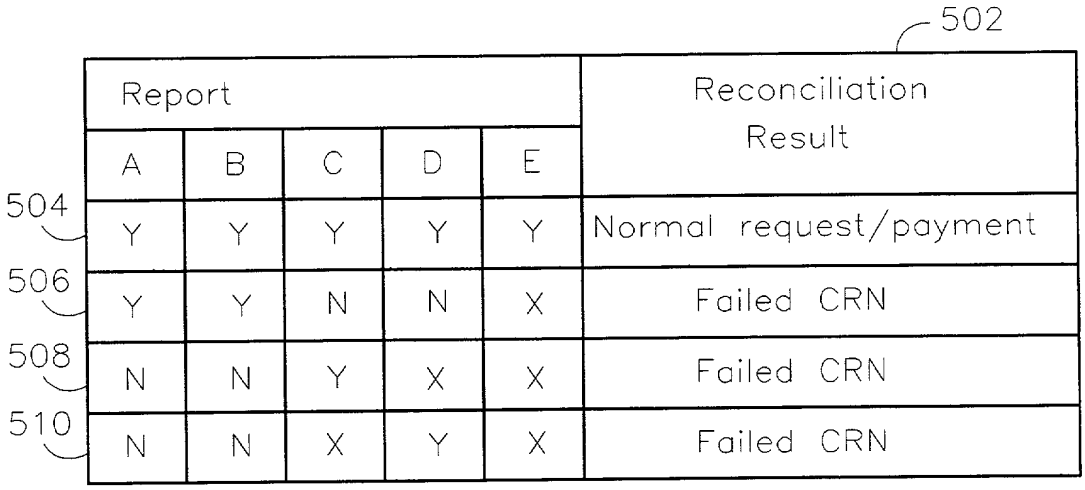

C
D
Event
Reporting
Node
326
328
402
116
Log Start and Summary
Events
Data
Base
404
114
118
Reconciling
Node
405
Banking
Node
332
A
406
410
B
342
Reconcile
Reports
Funds
Transfer
E
336
408
Allocate
Earnings

FIG. 4



Y = Yes

N = No

X = Don't Care

FIG. 5

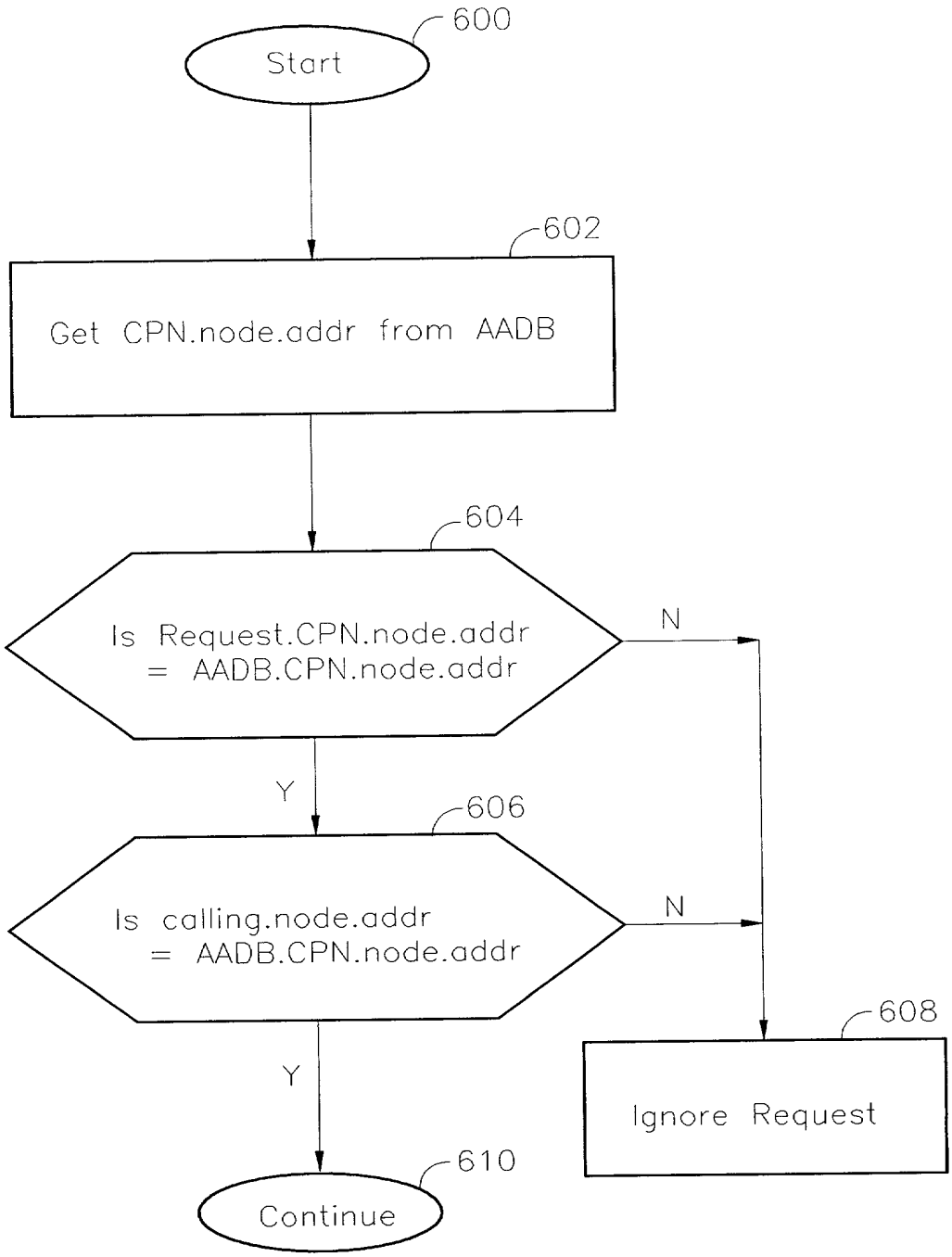

600
Start
602
Get CPN.node.addr from AADB
604
Is Request.CPN.node.addr = AADB.CPN.node.addr
N
Y
606
Is calling.node.addr = AADB.CPN.node.addr
N
Y
608
Ignore Request
610
Continue

FIG. 6

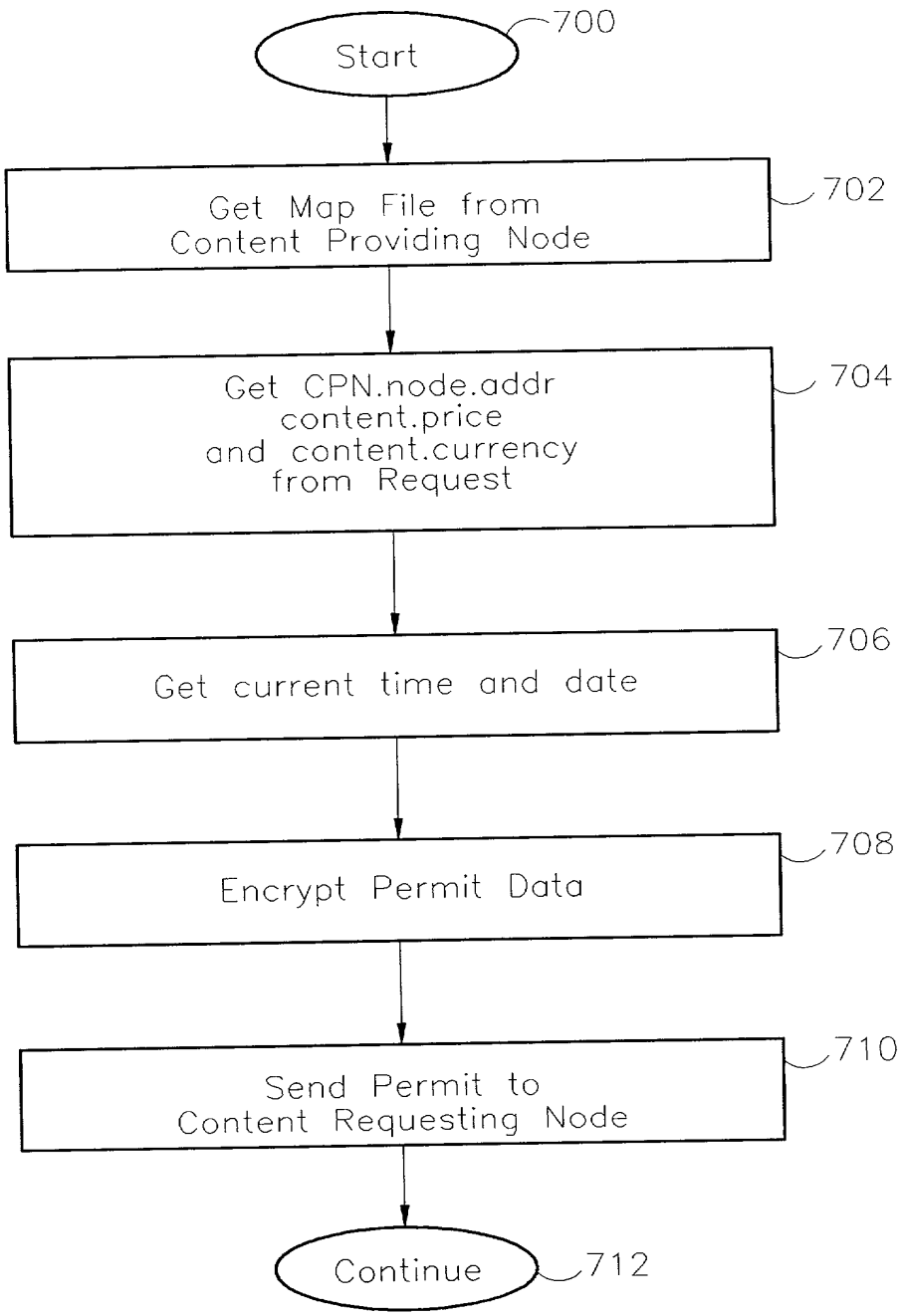

Start
700
Get Map File from Content Providing Node
702
Get CPN.node.addr content.price and content.currency from Request
704
Get current time and date
706
Encrypt Permit Data
708
Send Permit to Content Requesting Node
710
Continue
712

FIG. 7

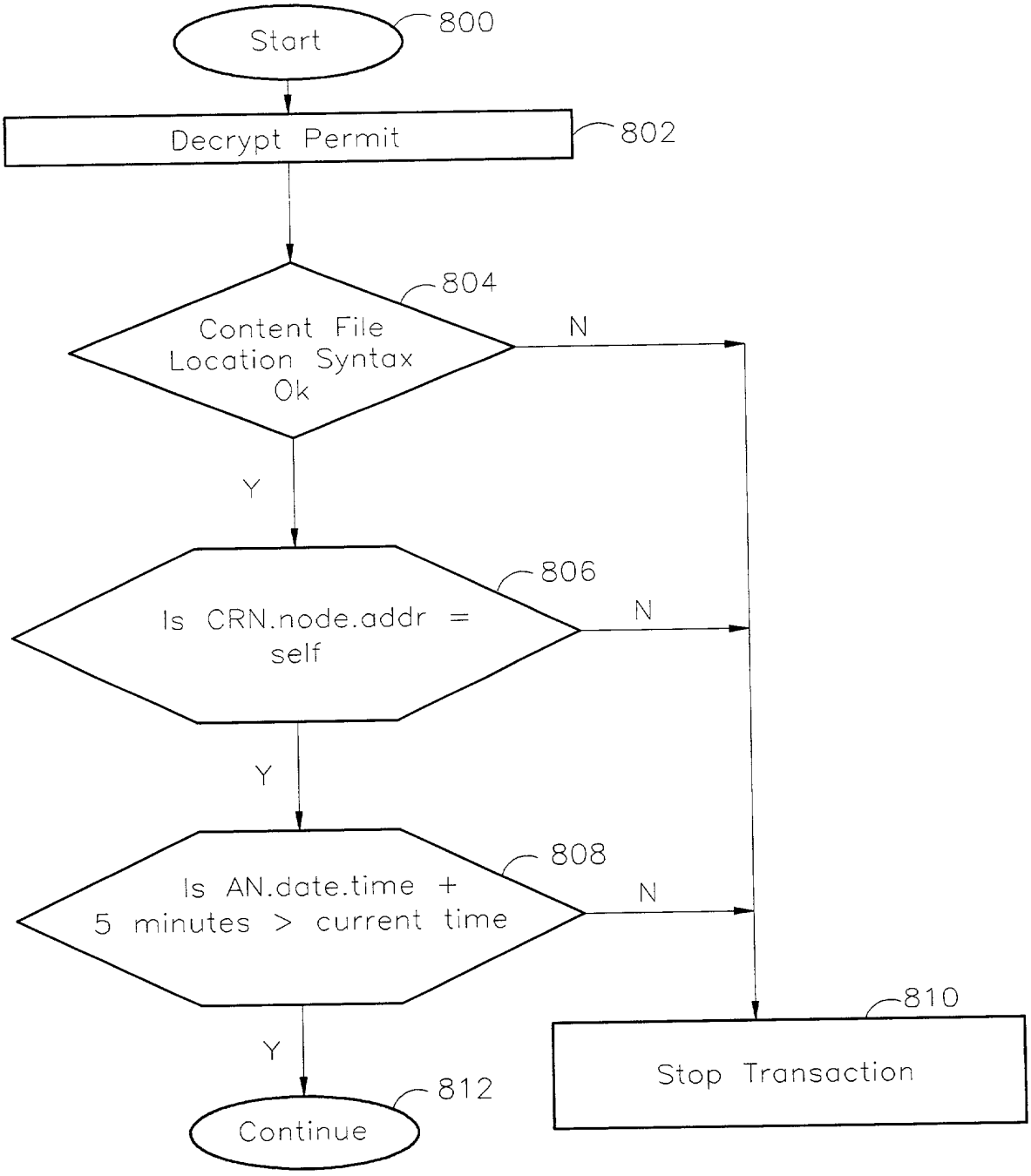

Start
800
Decrypt Permit
802
Content File Location Syntax Ok
804
N
Y
Is CRN.node.addr = self
806
N
Y
Is AN.date.time + 5 minutes > current time
808
N
Y
Stop Transaction
810
Continue
812

FIG. 8

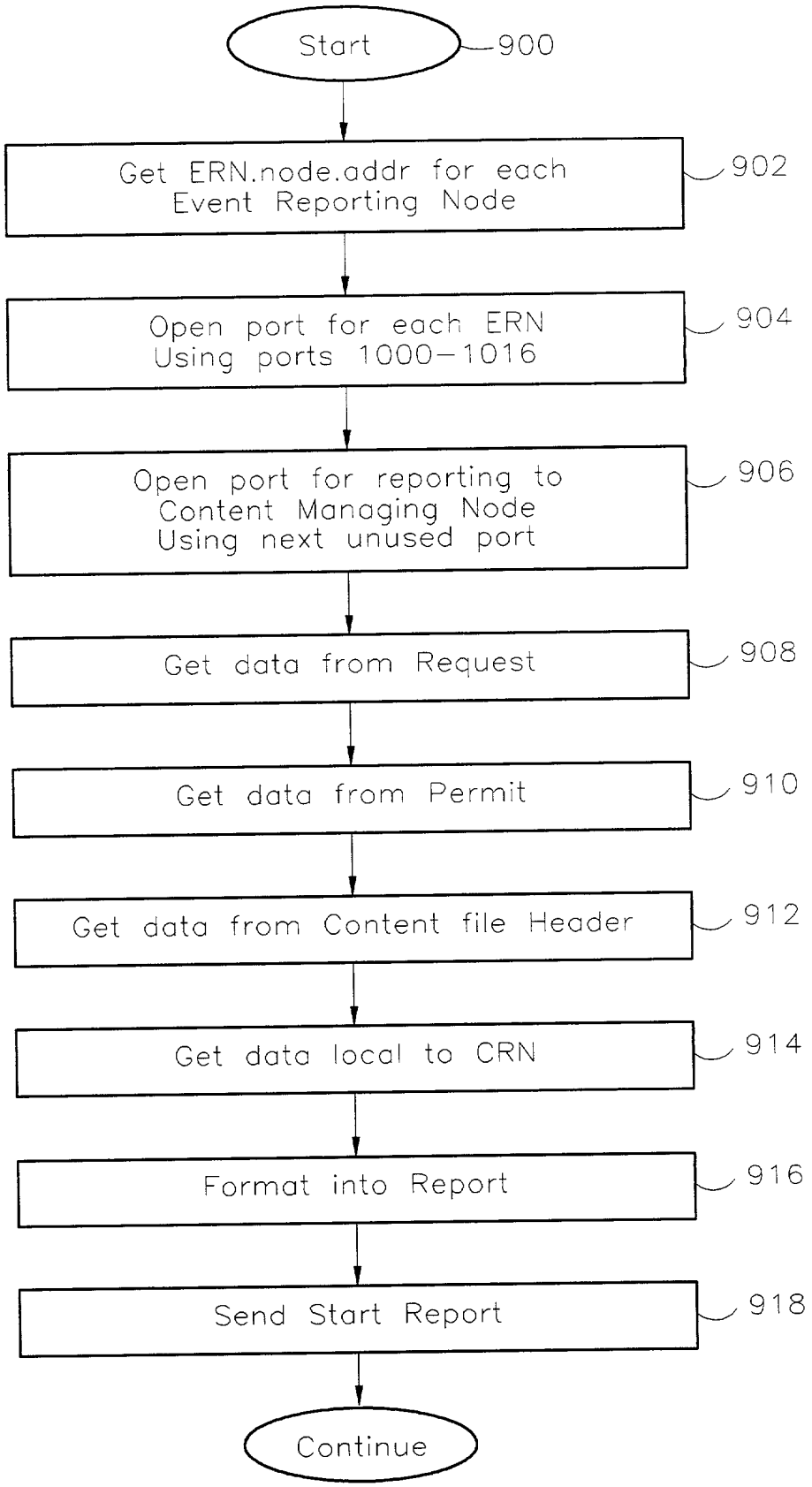

Start
900
Get ERN.node.addr for each Event Reporting Node
902
Open port for each ERN Using ports 1000–1016
904
Open port for reporting to Content Managing Node Using next unused port
906
Get data from Request
908
Get data from Permit
910
Get data from Content file Header
912
Get data local to CRN
914
Format into Report
916
Send Start Report
918
Continue

FIG. 9

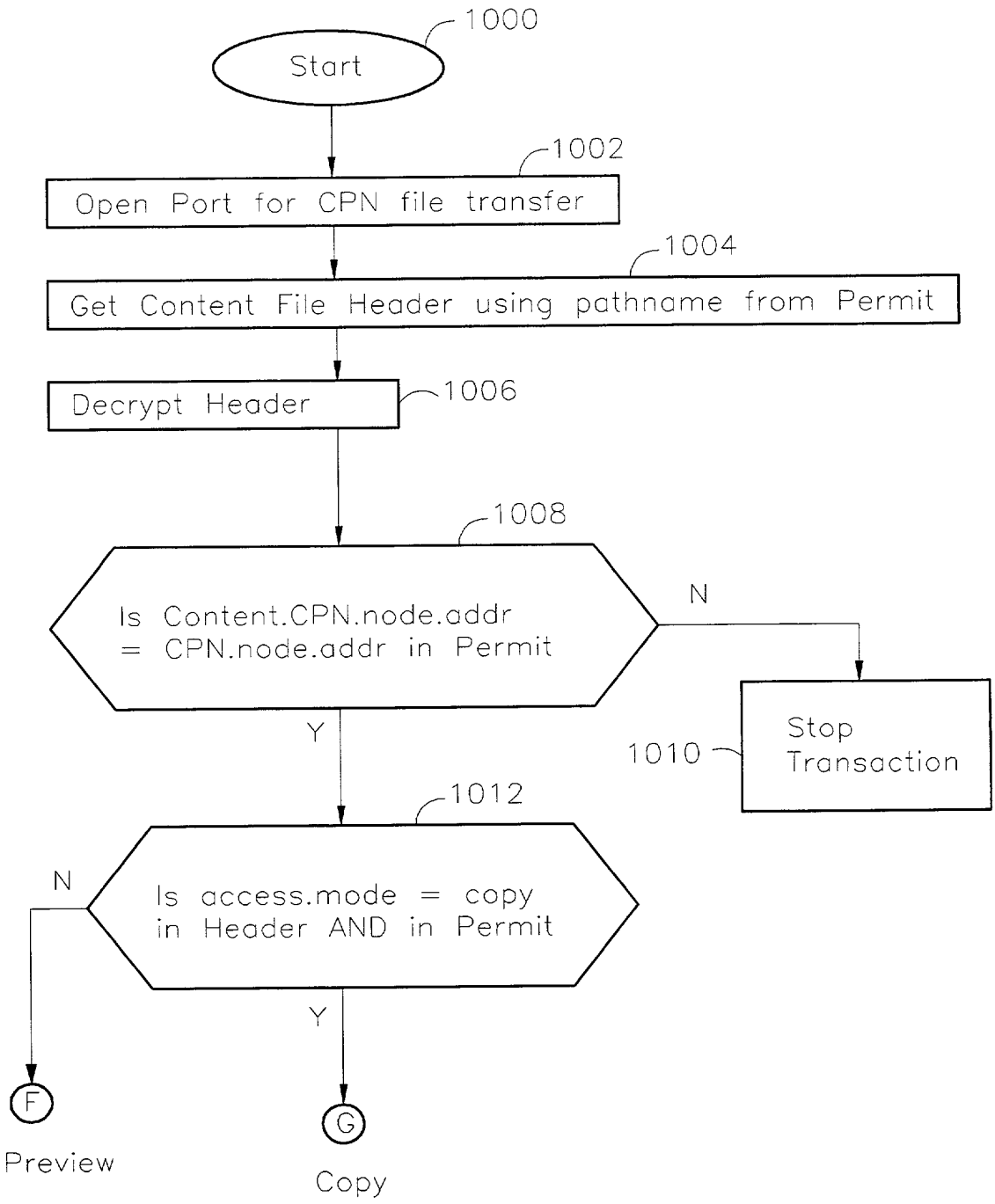

1000
Start
1002
Open Port for CPN file transfer
1004
Get Content File Header using pathname from Permit
Decrypt Header
1006
1008
Is Content.CPN.node.addr
= CPN.node.addr in Permit
N
Y
1010
Stop
Transaction
1012
N
Is access.mode = copy
in Header AND in Permit
Y
F
G
Preview
Copy

FIG. 10

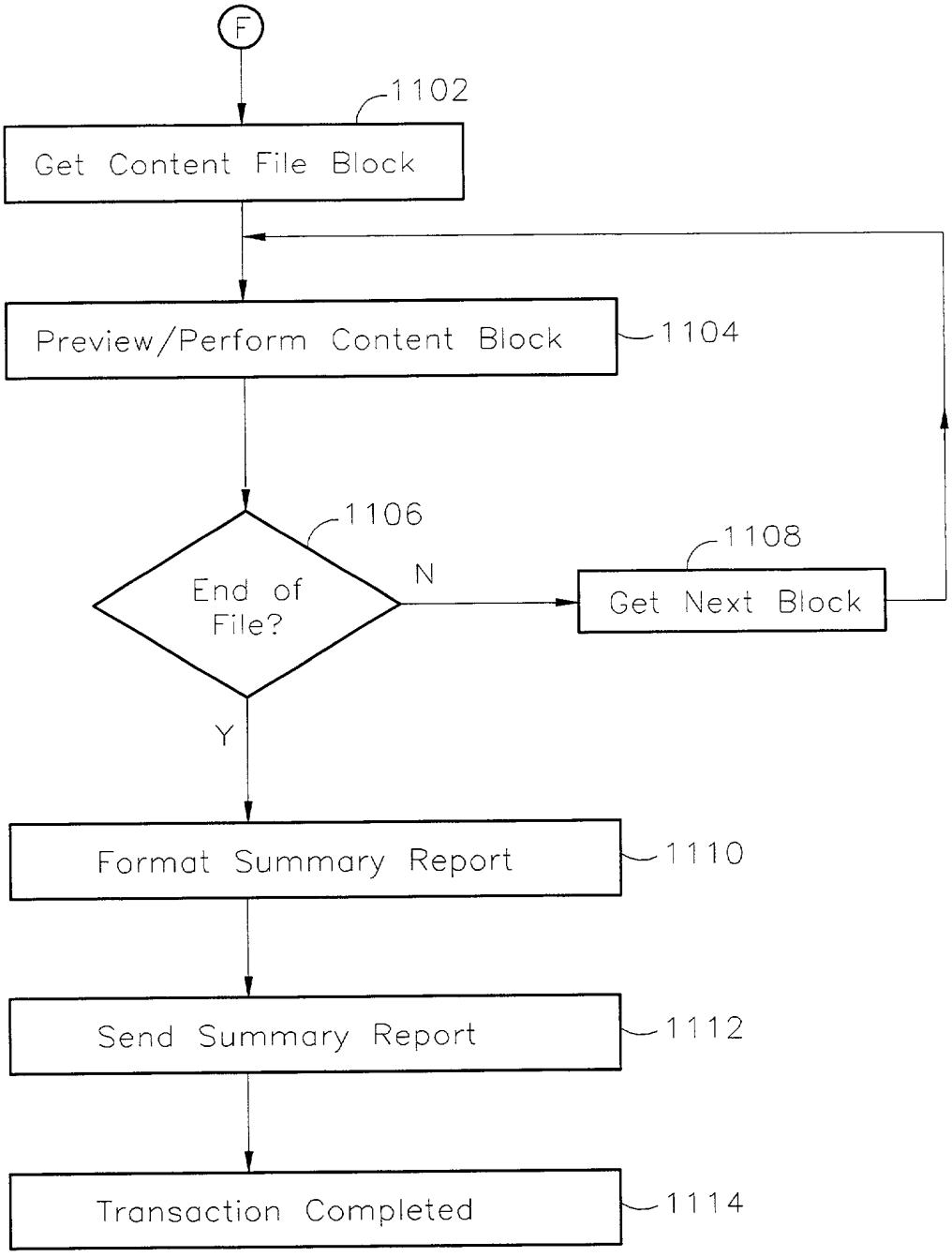

F
1102
Get Content File Block
Preview/Perform Content Block
1104
1106
End of File?
N
1108
Get Next Block
Y
Format Summary Report
1110
Send Summary Report
1112
Transaction Completed
1114

FIG. 11

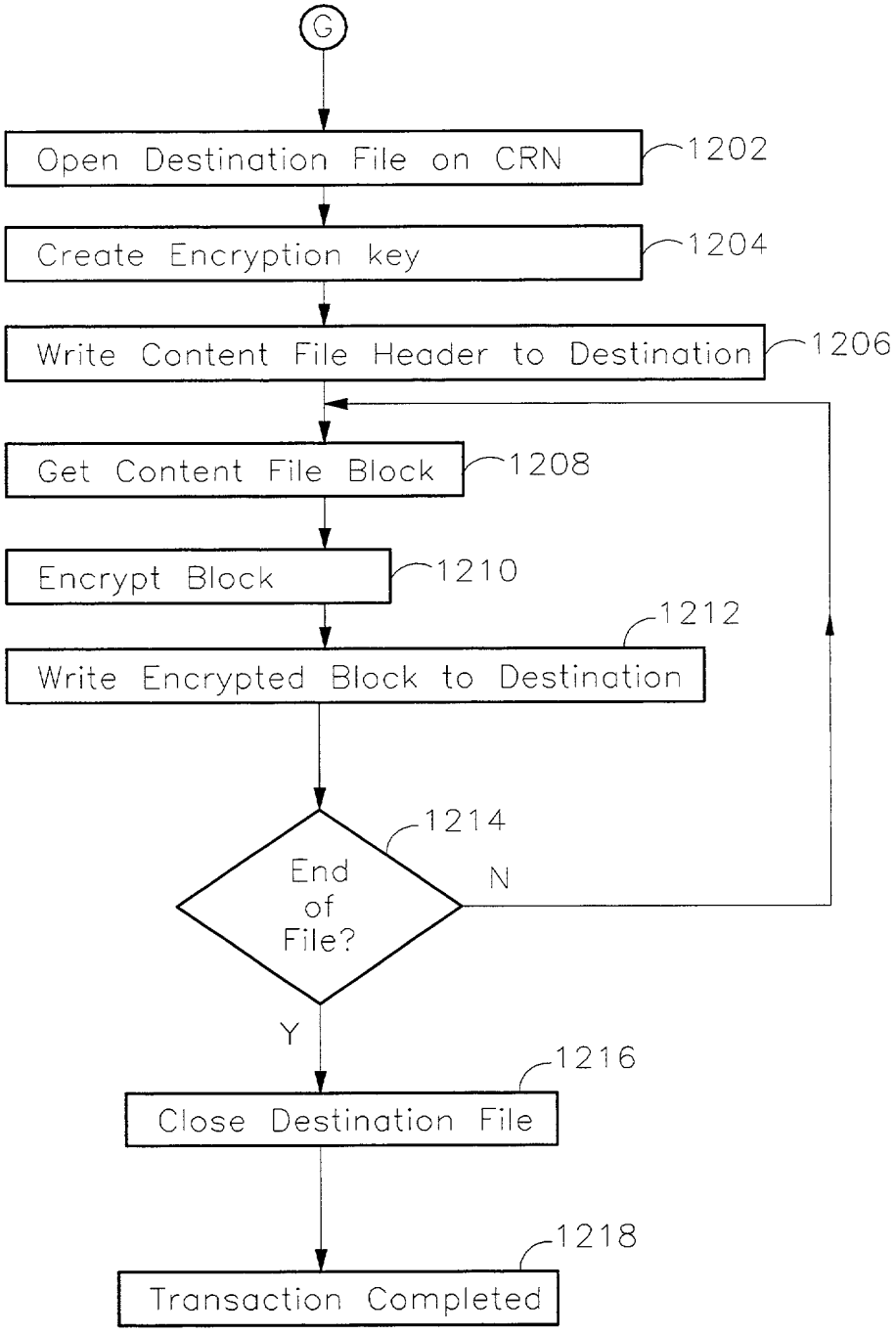

G
Open Destination File on CRN
1202
Create Encryption key
1204
Write Content File Header to Destination
1206
Get Content File Block
1208
Encrypt Block
1210
1212
Write Encrypted Block to Destination
1214
End of File?
N
Y
1216
Close Destination File
1218
Transaction Completed

FIG. 12

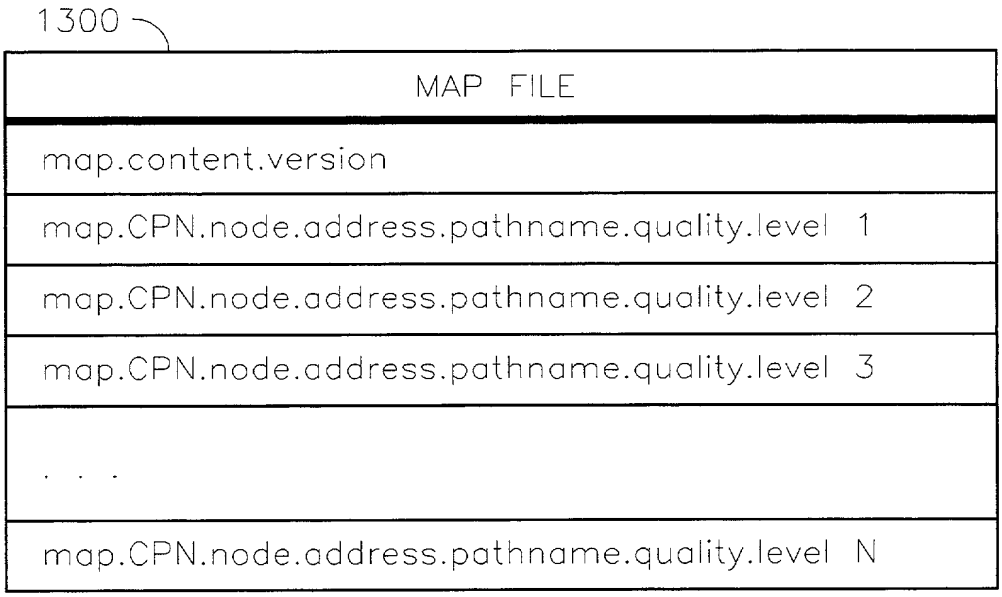

1300
MAP FILE
map.content.version
map.CPN.node.address.pathname.quality.level 1
map.CPN.node.address.pathname.quality.level 2
map.CPN.node.address.pathname.quality.level 3
. . .
map.CPN.node.address.pathname.quality.level N

FIG. 13

1400

CONTENT FILE HEADER
content.version
content.title
content.artist
content.copyright
content.date.recording
content.size
content.listen.begin
content.listen.duration
content.ID.code.type
content.ID.code.number
content.watermark.tech
content.legal.duration
content.file.number
content.usage.counter
content.CPN.node.address
content.generation.number
content.date.start.validity
content.date.stop.validity
content.encrypt.tech
content.encrypt.key
content.listen.price
content.listen.currency
content.copy.price
content.copy.currency
content.home.copy.price
content.home.copy.currency

FIG. 14

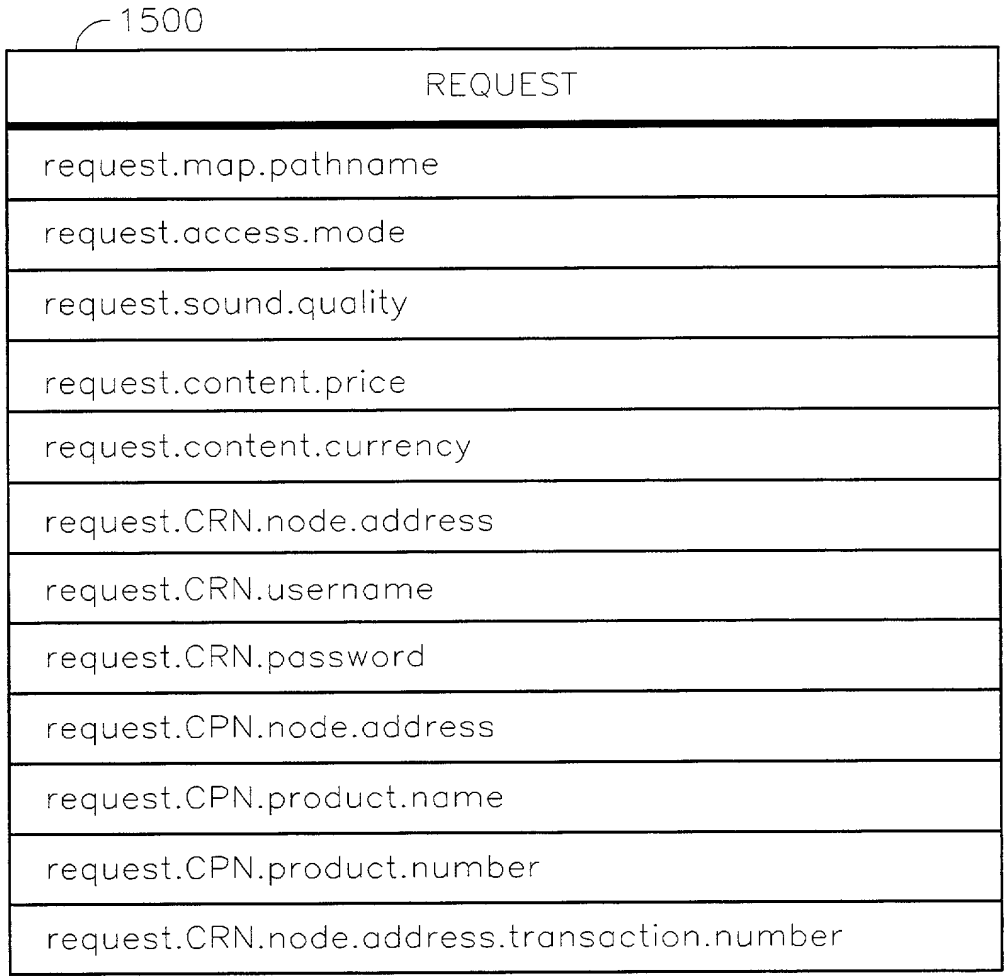

1500
REQUEST
request.map.pathname
request.access.mode
request.sound.quality
request.content.price
request.content.currency
request.CRN.node.address
request.CRN.username
request.CRN.password
request.CPN.node.address
request.CPN.product.name
request.CPN.product.number
request.CRN.node.address.transaction.number

FIG. 15

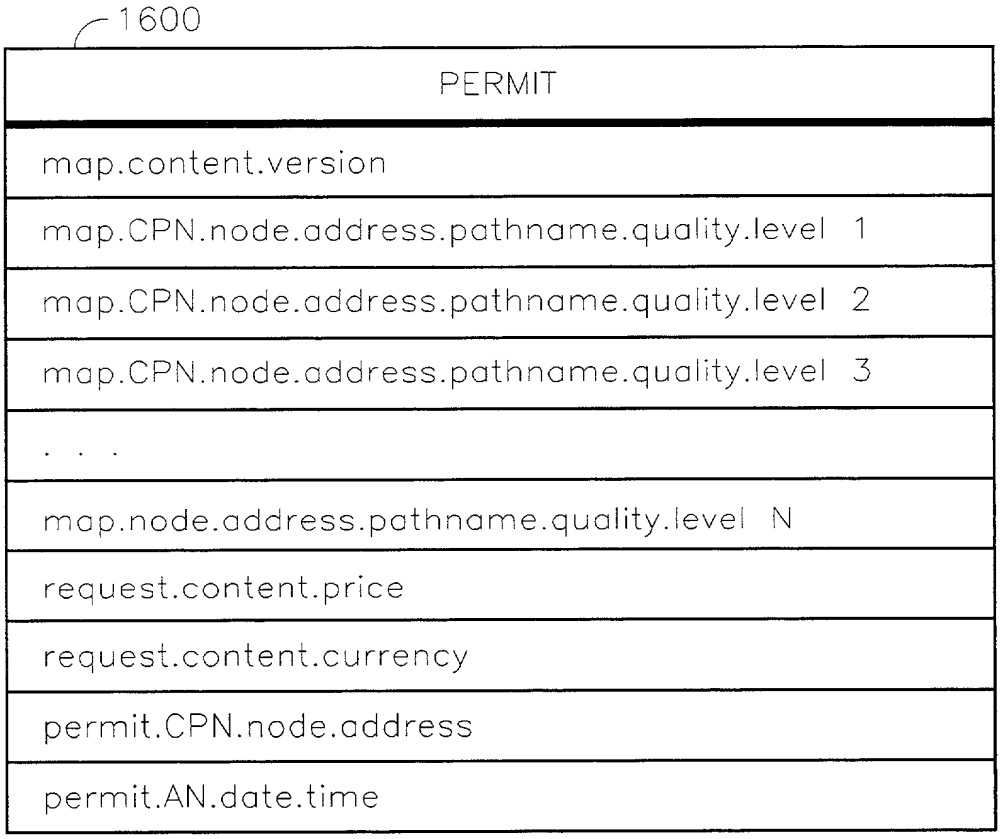

1600
PERMIT
map.content.version
map.CPN.node.address.pathname.quality.level 1
map.CPN.node.address.pathname.quality.level 2
map.CPN.node.address.pathname.quality.level 3
. . .
map.node.address.pathname.quality.level N
request.content.price
request.content.currency
permit.CPN.node.address
permit.AN.date.time

FIG. 16

1700

START REPORT
request.CRN.node.address.transaction.number
request.CRN.node.address
request.CRN.username
request.CRN.password
request.access.mode
start.report.date.time
content.title
content.artist
content.copyright
content.legal.duration
content.ID.code.type
content.ID.code.number
content.CPN.node.address
content.file.number
start.report.CRN.encrypt.key
request.content.price
request.content.currency
request.sound.quality
permit.map.CPN.node.address.pathname.quality.level[x]
start.report.CRN.timezone
start.report.CRN.language
start.report.CRN.keyboard

FIG. 17

1800

SUMMARY REPORT
request.CRN.node.address.transaction.number
request.CRN.node.address
request.CRN.username
request.CRN.password
content.ID.code.type
content.ID.code.number

FIG. 18

1900

ACCESS REPORT
content.title
content.artist
content.copyright
content.legal.duration
content.ID.code.type
content.ID.code.number
content.CPN.node.address
content.file.number
access.territory.rightowners
content.price
content.currency
request.CRN.node.address.transaction.number

FIG. 19

2000

DEBIT REPORT
content.ID.code.type
content.ID.code.number
content.CPN.node.address
request.CPN.product.name
request.CPN.product.number
debit.date.time
request.CRN.username
request.CRN.password
request.content.price
request.content.currency
request.CRN.node.address.transaction.number

FIG. 20